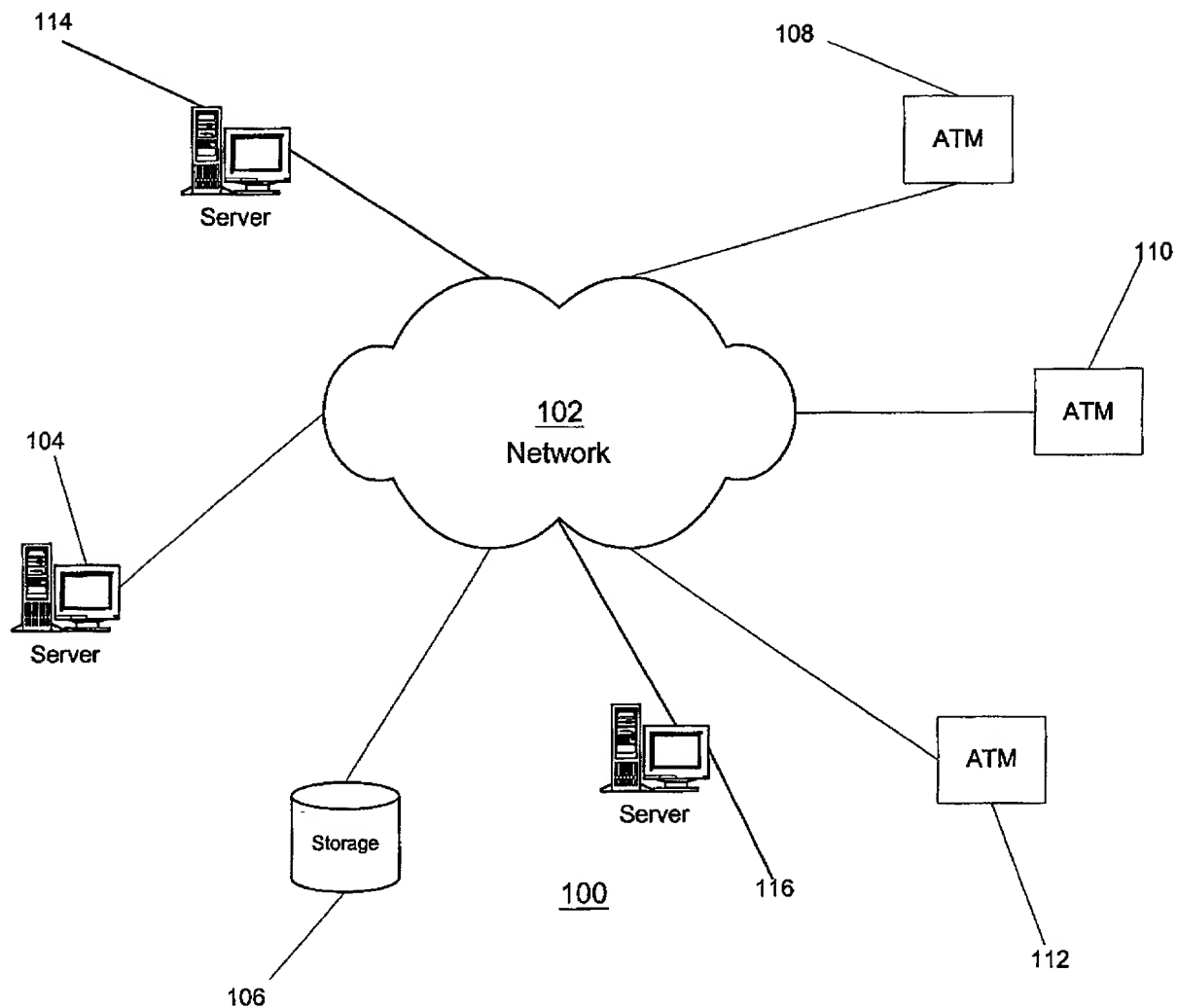# Figure 1

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114

108

Server

ATM

110

104

102
Network

ATM

Server

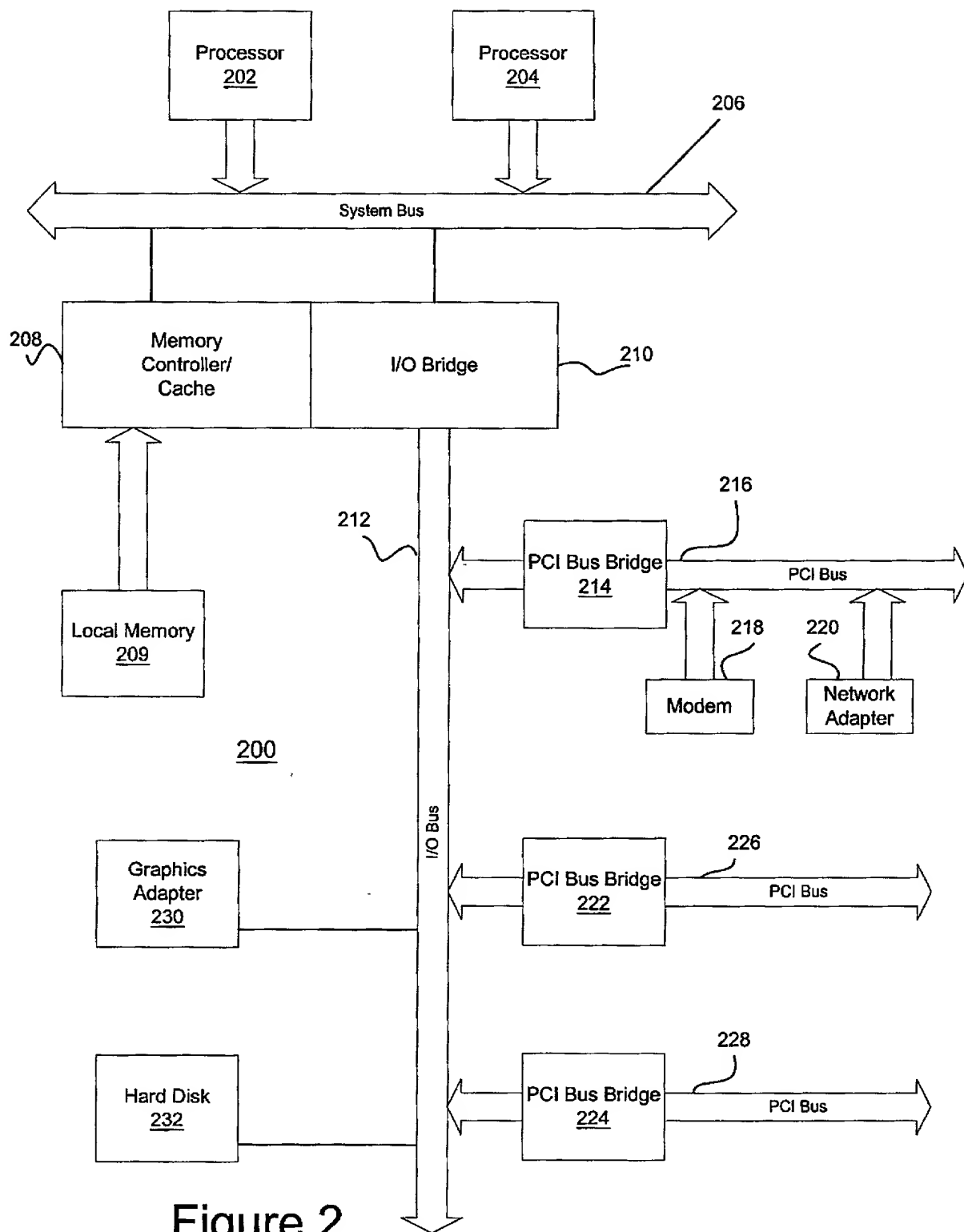ATM

Storage

Server

100

116

106

112

Figure 2

Figure 3

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Figure 4

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Processor unit 404	Memory 406	Communications Unit 412

400

Bus 402

Check processing unit 428

Cash dispenser 430

Display 414

Hard disk drive 408

Key pad 426

I/O controller 410

Card reader 416

Printer 418

Scanner 424

Input slot feeder 422

Output slot feeder 420

Figure 5

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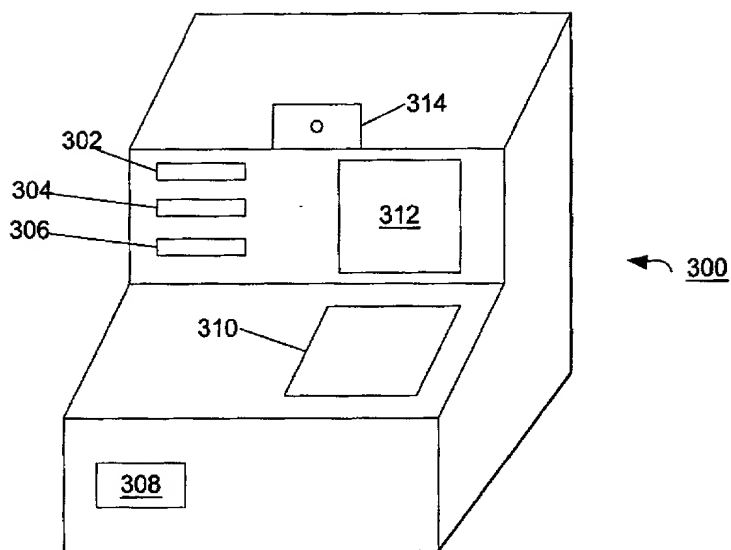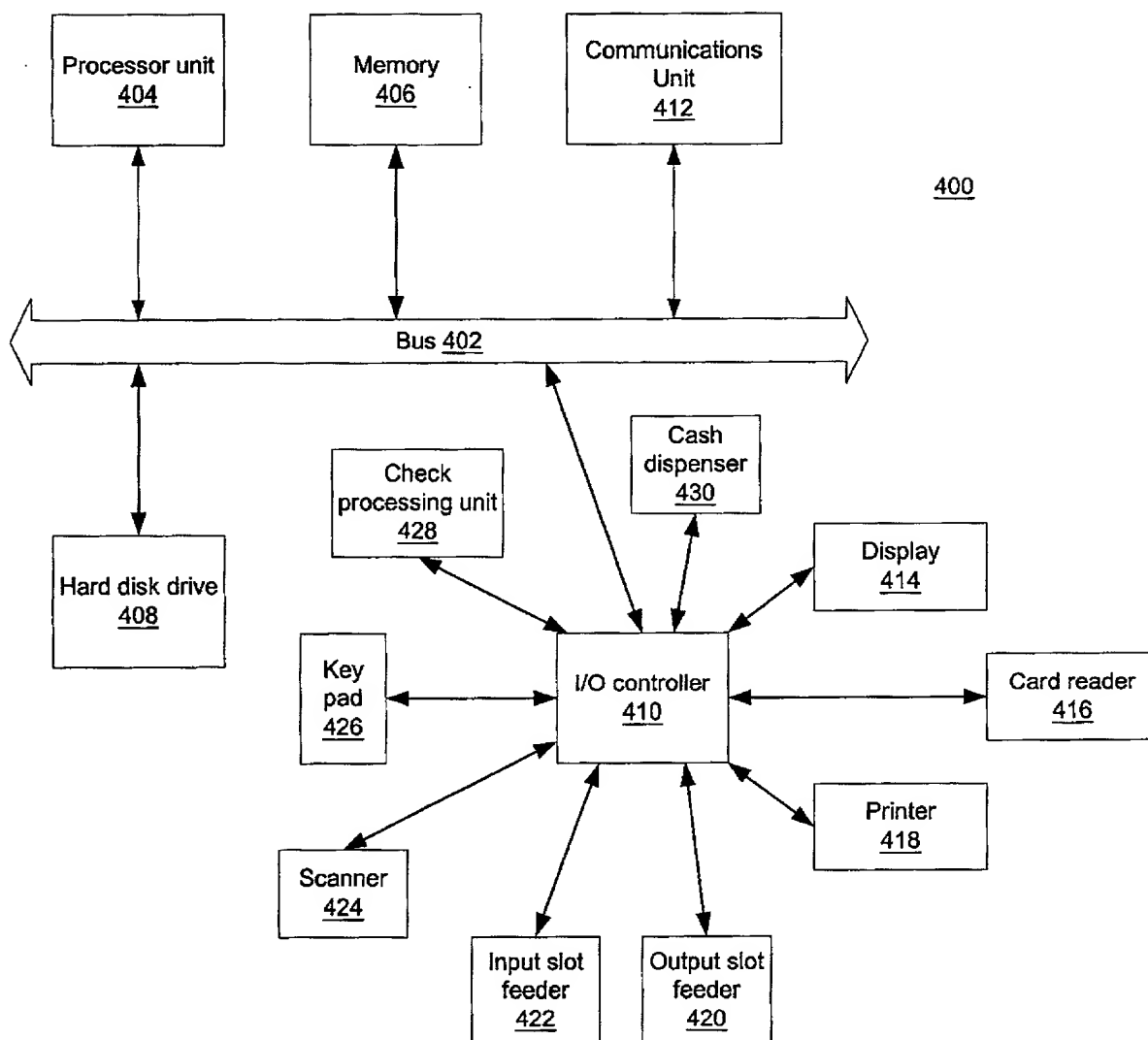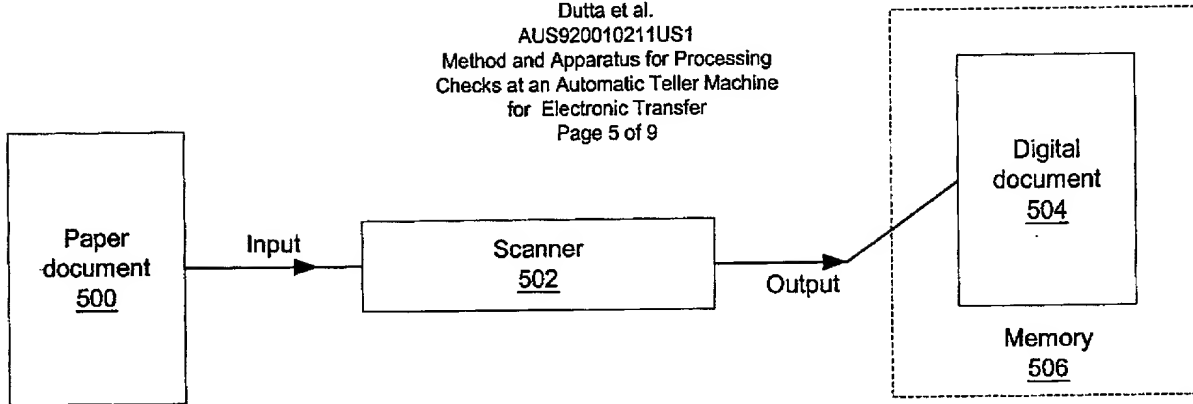for Electronic Transfer
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```
┌──────────────┐          ┌──────────────┐              ┌ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐
│    Paper     │  Input   │   Scanner    │  Output      │  ┌──────────────┐        │
│  ·document   │ ───────▶ │     502      │ ───────▶     │  │   Digital    │        │
│     500      │          │              │              │  │   document   │        │
└──────────────┘          └──────────────┘              │  │     504      │        │
                                                         │  └──────────────┘        │
                                                         │      Memory              │
                                                         │       506                │
                                                         └ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘
```

Figure 6


```
                    600
┌───────────────────────────────────────┐
│  ┌─────────────────────────────────┐   │
│  │         606                      │   │
│  │        ┌ ─ ─ ─ ┐                 │   │
│  │        │   ⚷   │      ⚷          │   │
│  │        │       │     ─┤  608     │   │
│  │ Memory │  ─┤   │                 │   │
│  │        └ ─ ─ ─ ┘                 │   │
│  │  604    Private key   Public key │   │
│  └─────────────────────────────────┘   │
│  ┌──────────────────┐                  │
│  │  Microprocessor  │                  │
│  └──────────────────┘                  │
└───────────────────────────────────────┘
            602
```

Figure 7

```
                                                              700
┌──────────────────────────────────────────────────────────────┐
│ ┌────────────────────────────────────────────────────────┐   │
│ │                                                          │   │
│ │  BOB JONES                              DATE   6/30/98   │   │
│ │                        702                          704  │   │
│ │                                                          │   │
│ │  PAY TO THE ORDER OF____Payee_____|_$100.00_ │   │
│ │  One Hundred and no/100s_____DOLLARS    │   │
│ │                            708                           │   │
│ │  FIRST NATIONAL BANK                                     │   │
│ │  ═══════════════════                                     │   │
│ │                         706          710                 │   │
│ │  MEMO___Invoice #593281___    _____      │   │
│ │                                                          │   │
│ │  |:00 2100 66\: 770 || 964076||: 2121                    │   │
│ └────────────────────────────────────────────────────────┘   │
└──────────────────────────────────────────────────────────────┘
```
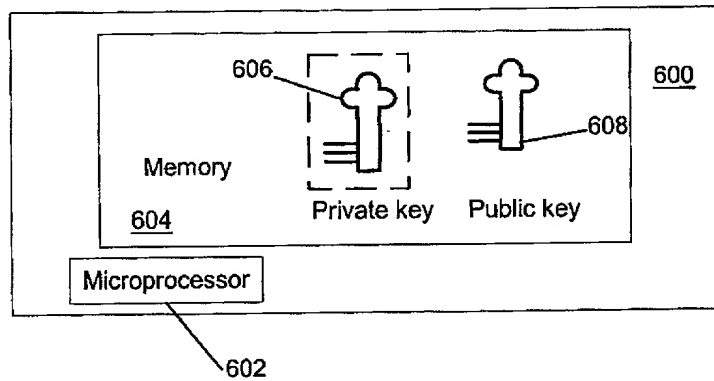
Figure 8

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Applications
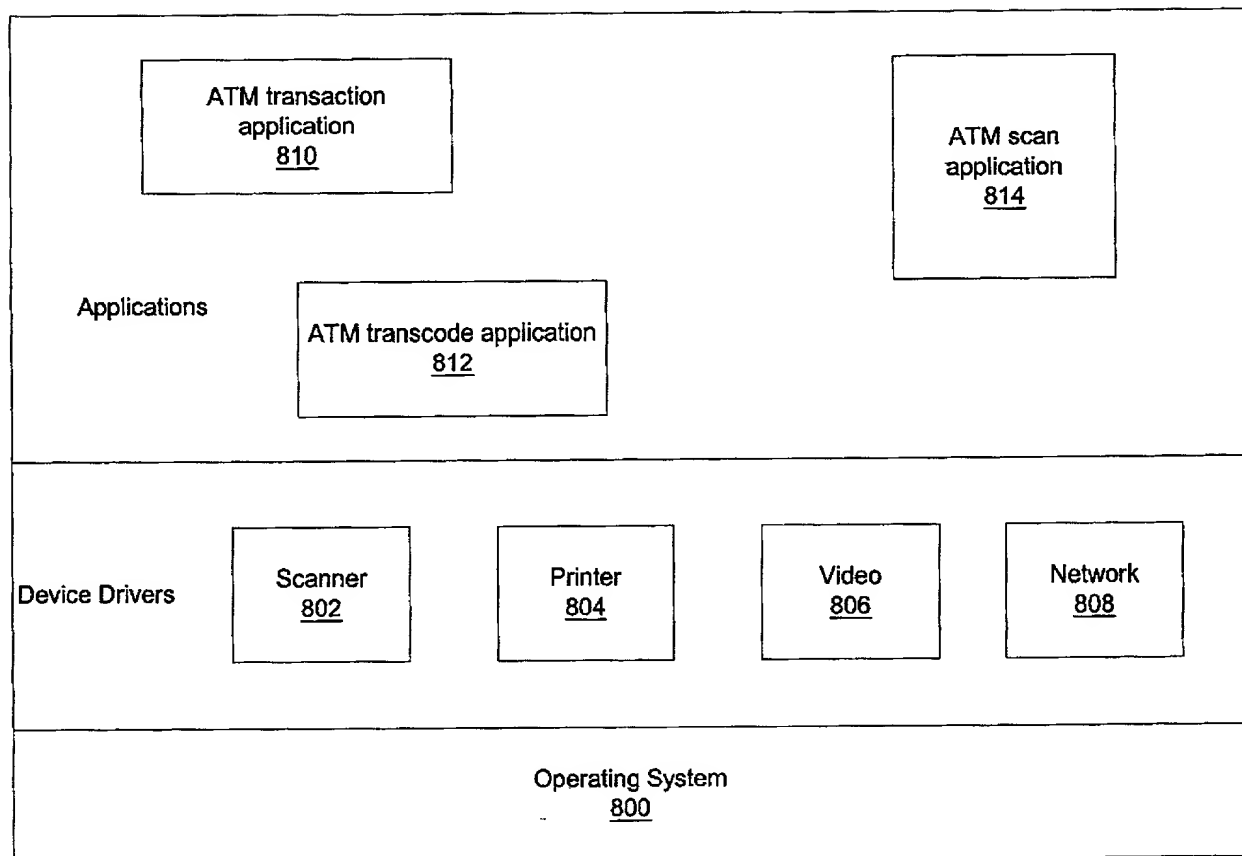
ATM transaction
application
810

ATM scan
application
814

ATM transcode application
812

Device Drivers

Scanner
802

Printer
804

Video
806

Network
808

Operating System
800

Figure 9A

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```
<fsml-doc docname="echeck187" type="check">
<action>
<blkname>act1
·<crit>true                    900
<vers>1.0
<function>payment
<reason>process
</action>
<check>
<blkname>check2>
<crit>true
<vers>1.0
<checkdata>
<checksum>187
<dateissued>19970519
<datevalid>19970519
<country>us
<amount>1000000.00
<currency>usd
<payto>Chili Pepper
</checkdata>
<checkbook>2048
<legalnotice>This instrument subject to check law
</check>
<signature>
<blkname>sig7
<crit>true
<vers>1.5
<sigdata>
<blockref>act1
<hash alg="sha">J4t/NI7s44IqSMTR1/1bkgABwug=
<blockref>check2
<hash alg="sha">vFns/1Vm9QaRDFAgtijkE24cazk=
<blockref>acct-111111111-00000001
<hash alg="sha".f51C8MWtSVgeCQPOmzDTBjy1Zg=
<nonce>9D9BC5AA75
</cert>
<signature>
<blkname>banksig6
```

Figure 9B

```
<crit>true
<vers>1.5
<sigdata>
<blockref>acct-111111111-00000001
<hash alg="sha">fF51C8MwtSVgeCQPOmzDTBjy1zg=
<blockref>cert-111111111-00000001
<hash alg="sha">1xzwMBQg7/rXMxC8k79xyotRTVY=
<nonce>9D9BC5AA75
<sigref>cert-111111111
<sigtype>bankacct
<algorithm>sha/dsa                    900
<location>us
</sigdata>
<sig>
JInh43b1zYIydAELCmAo6j8nY/
I=:mBnAYXvAB7Pm+EWU865jIQvEr7A=
</signature>
<cert>
<blkname>cert-1111111
<crit>true
<vers>1.0
<certtype>x509v1
<certissuer>/C=US/ST=MD/O=FSTC/OU=checking CA/
<certserial>1
<certdata>
</cert>
</fsml-doc>
```

Figure 11

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Start

↓

Receive check
1100

↓

Scan check to obtain a digital
image of the check
1102

↓

Perform OCR on digital image
of check
1104

↓

Generate a markup language
document representing the
check
1106

↓

Store markup language
document and digital image
1108

↓

Send markup language
document and digital image to
financial institution
1110

↓

End

Figure 10

1002 ⎰ Attachments
delivery route

1004 ⎱ Signatures
1006

Content
1008

1000

Figure 12

```
                    ( Start )
                        |
                        v
            +------------------------+
            |  Receive smart card    |
            |         1200           |
            +------------------------+
                        |
                        v
            +------------------------+
            | Display representation |
            |       of check         |
            |         1202           |
            +------------------------+
                        |
                        v
            +------------------------+
    +-----> |   Receive user input   | <-----+
    |       |         1204           |       |
    |       +------------------------+       |
    |                   |                    |
    |                   v                    |
    |              / All required \          |
+----------+  No  / fields          \       |
| Prompt for| <--- \ completed?     /        |
| completion|       \    1206      /         |
|   1218   |         _____/          |
+----------+              | Yes              |
                          v                  |
            +------------------------+       |
            |    Confirm entries     |       |
            |         1208           |       |
            +------------------------+       |
                        |                    |
                        v                    |
                   /  Entries  \             |
                  /  confirmed? \  No   +----------+
                  \    1210     / ----> | Prompt for|
                   _____/        | changes   |
                        | Yes           |   1216    |
                        v               +----------+
            +------------------------+
            |   Generate markup      |
            |  language document     |
            |         1212           |
            +------------------------+
                        |
                        v
            +------------------------+
            | Send markup language   |
            |  document to payee     |
            |         1214           |
            +------------------------+
                        |
                        v
                     (  End  )
```